



**USING MICROSOFT
ACCESS WITH
RCRAINFO

QUERIES AND
REPORTS**

**RCRAInfo National Users
Conference**

September 18 - 21, 2001

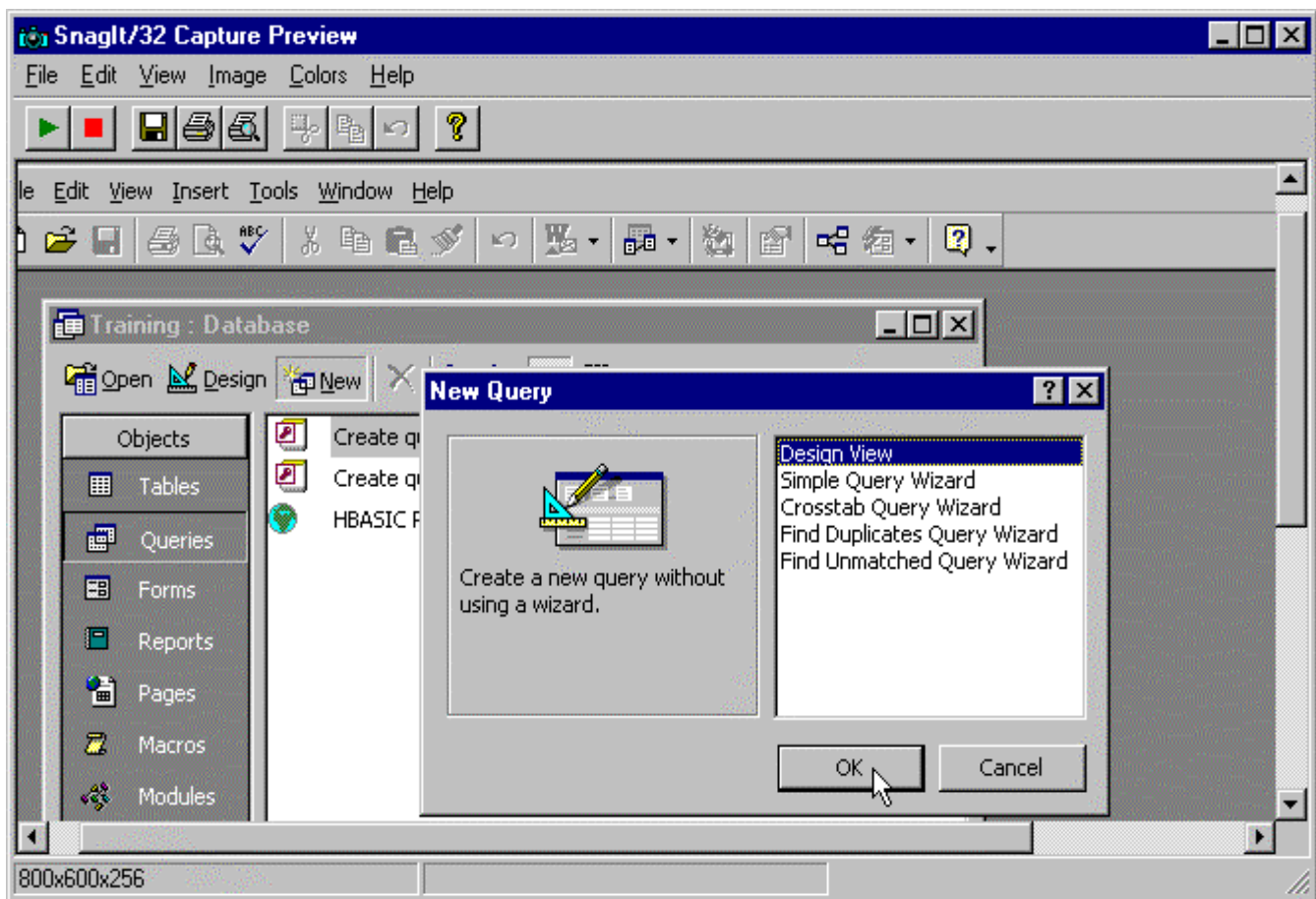
USING MICROSOFT ACCESS WITH RCRAINFO

WORKING WITH QUERIES REPORT BUILDING USING REPORT WIZARD

Prepared by:
Buddy Jones
USEPA, Region 6
(6PD-I)
Dallas, TX 75202

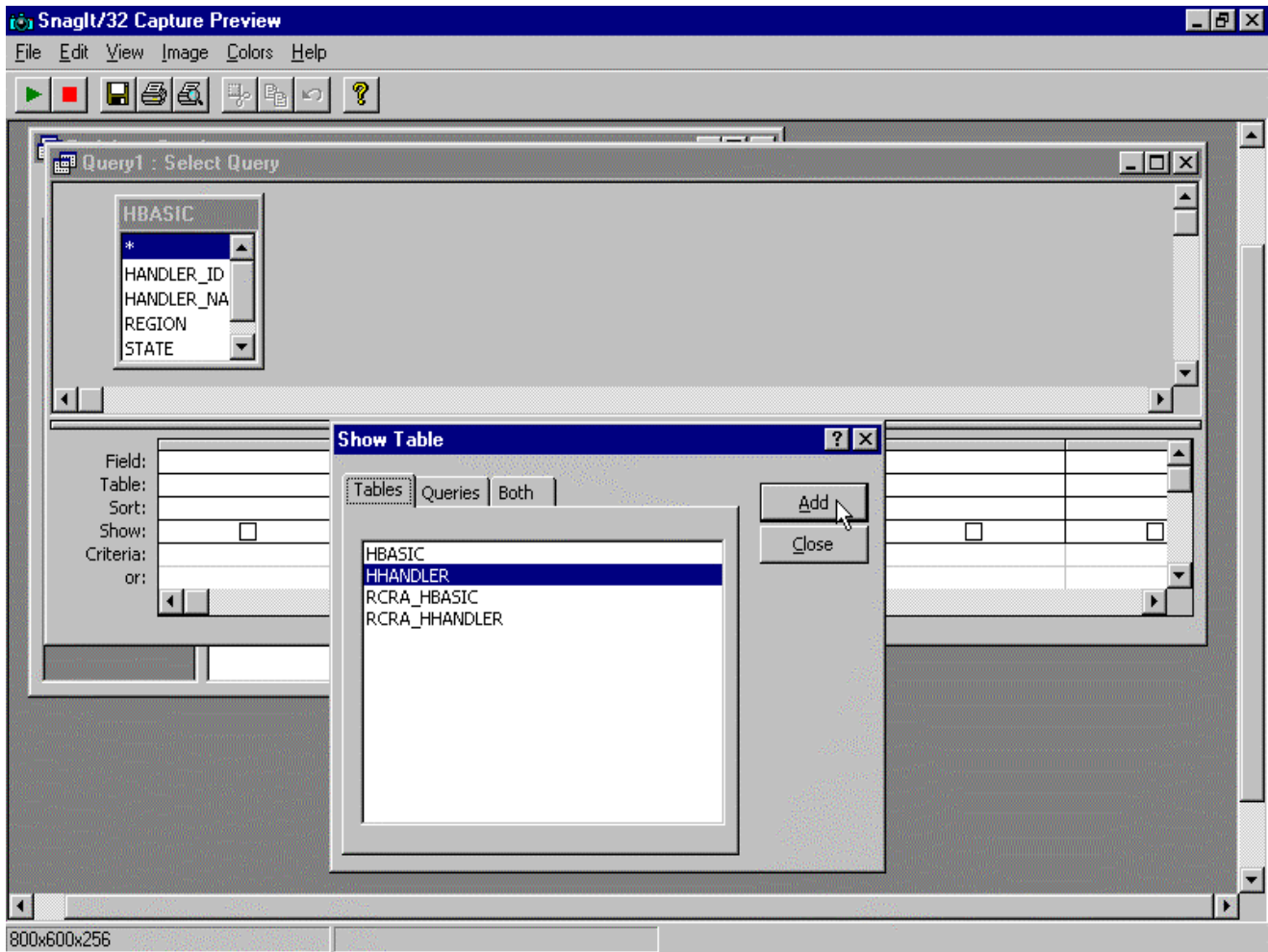
Building a Query

Select Queries ➔ New ➔ Design View and click OK:



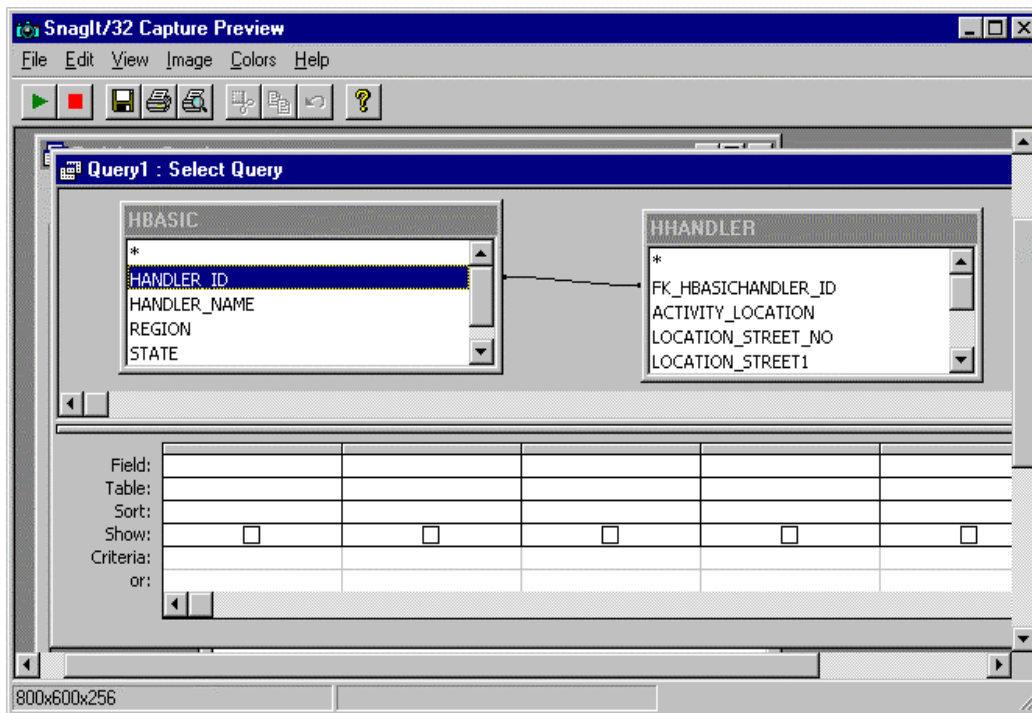
Select the ACCESS table(s) you wish to use, and click Add.

NOTE: Ensure you select the appropriate ACCESS table and not a “Link Table”.

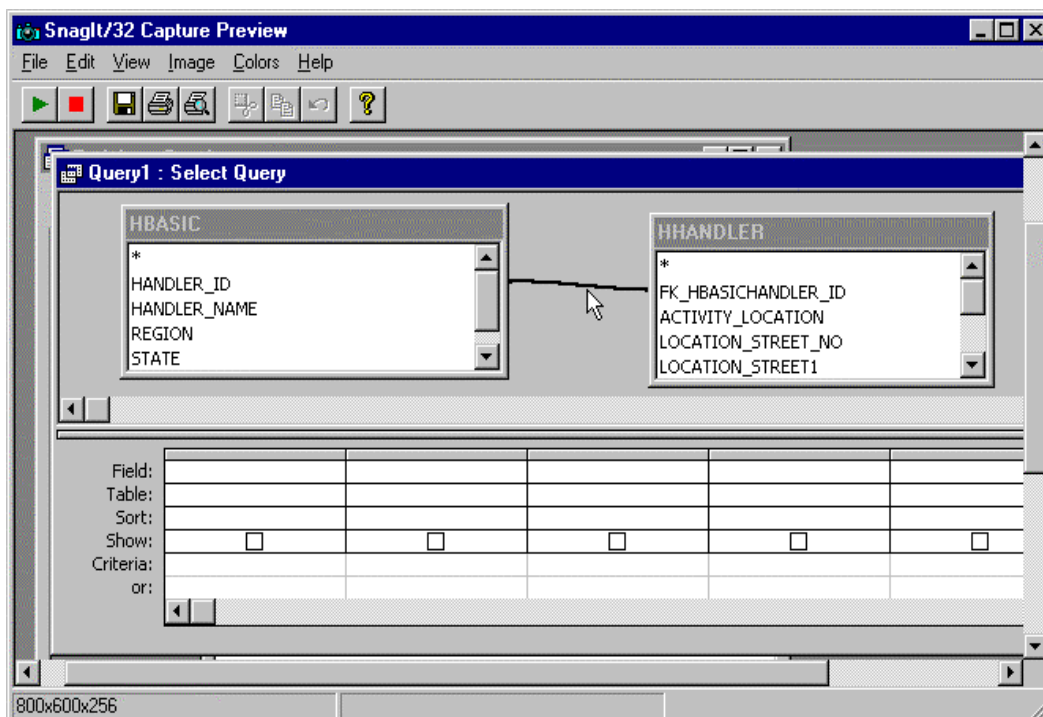


After selecting the table(s) you wish to use, and it/they appears in the “Select Query” area, click Close on the Show Table box.

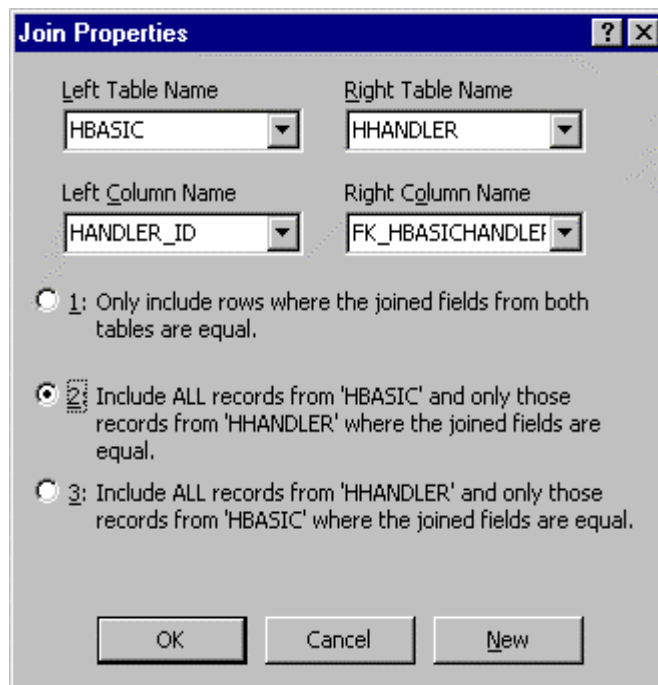
To link tables, hold down the left mouse button and drag from the linkable field in one table to its related field in the other. Example HANDLER_ID in HBASIC to FK_HBASICHANDLER_ID in HHANDLER.



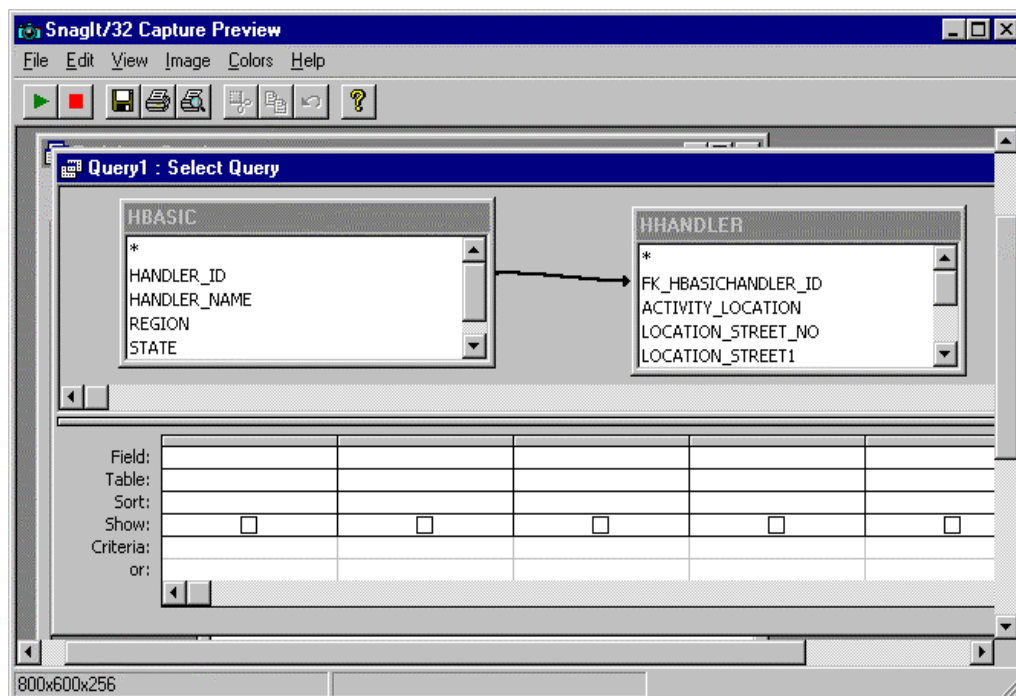
To define the relationship, double-click on the Link line:



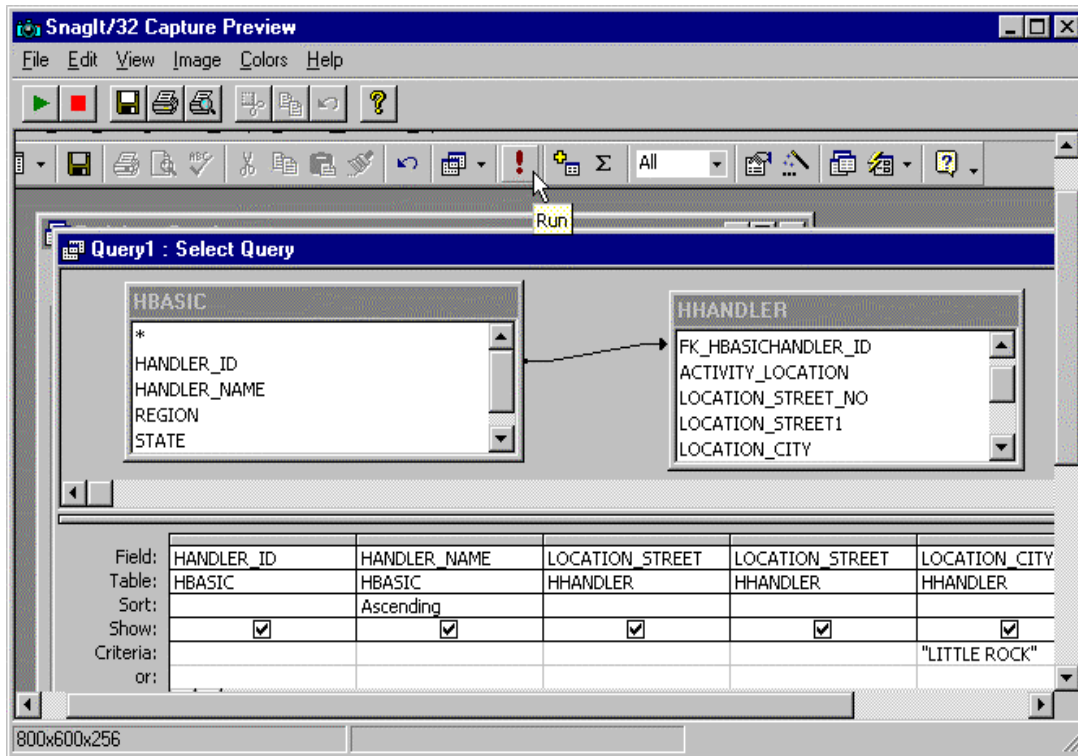
In the Join Properties box, choose the appropriate relationship you desire and click OK.



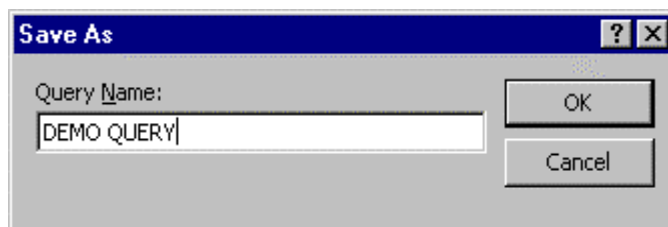
Note that the Link line changes to an arrow, pointing from one field to it's related field based on the join property you assigned.



After selecting any criteria and/or sort you desire, click the Run icon (!):



Save your query with an appropriate name.



Queries allow you be better qualify criteria, such as concatenating fields, using IF..THEN statements, etc.. Building a query first aids in generating a report.

MICROSOFT ACCESS 2000 OPERATORS, CHARACTERS AND FUNCTIONS

(Commonly used with RCRAInfo)

COMMONLY USED OPERATORS:

<u>Operator</u>	<u>Definition</u>	<u>Example</u>
=	Equal to	= "NORFOLK"
<	Less than	< 10
<=	Less than or equal to	<= 10
>	Greater than	> 10
>=	Greater than or equal to	>= 10
<>	Not equal to	<> "LITTLE ROCK"
Like	Finds values within defined 'pattern' (Opposite "Not Like")	Like "NOR*"
Between..And	Finds values between given parameters (inclusive)	Between #10/1/99# and #9/30/00#
In	Finds values in list	In ("NC", "SC")

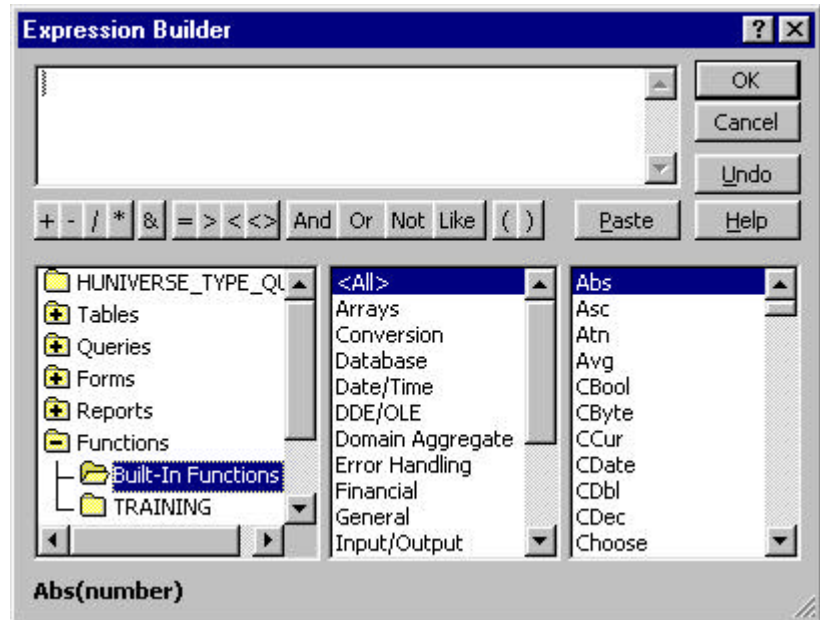
COMMONLY USED WILDCARD CHARACTERS:

<u>Character</u>	<u>Usage</u>	<u>Example</u>
*	Matches any number of characters. It can be used as the first or last character in the character string.	wh* finds what, white, and why
?	Matches any single alphabetic character.	B?ll finds Bill, bull, Ball, bell
[]	Matches any single character within the brackets.	B[ae]ll finds ball and bell but not bill
!	Matches any character not in the brackets.	b[!ae]ll finds bill and bull but not bell
-	Matches any one of a range of characters. You must specify the range in ascending order (A to Z, Z to A).	b[a-c]d finds bad, bbd, bcd
#	Matches any single numeric character.	1#3 finds 103, 113, 123

FUNCTIONS

Note: This handout covers some the most common Microsoft Access functions used with RCRAInfo. A complete list of Access's built-in Functions can be found in the Expression Builder.

For more information, or information on other functions, we recommend you consult any good text reference concerning Microsoft Access or use the built-in Help function.

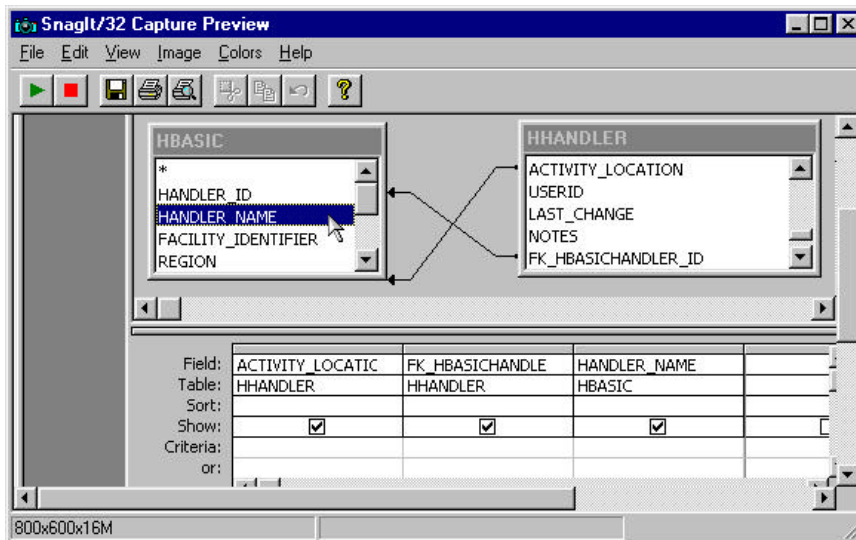
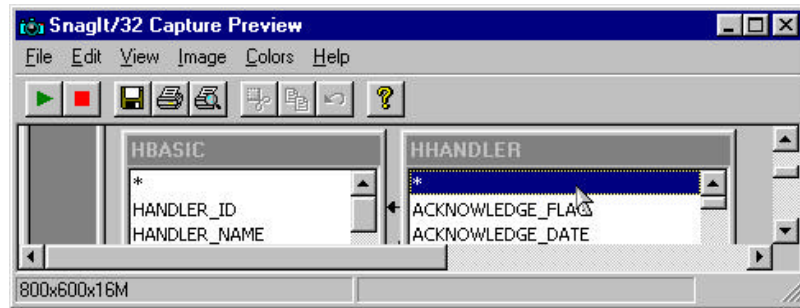


<u>FUNCTION</u>	<u>Example</u>
Left()	Left([HHANDLER]![LOCATION_ZIP],5) "123459876" results = "12345"
Right()	Right([HHANDLER]![LOCATION_ZIP],4) "123459876" results = "9876"
Mid()	Mid([CEVALUATION]![FK_LU_STAFFPERSON_IDENTIFIER],3,5) "ARAAA" results = "AAA"
&	(Used for concatenation - combining fields) Left([HHANDLER]![LOCATION_ZIP],5) & "-" & Right([HHANDLER]![LOCATION_ZIP],4) results = "12345-9876" [HHANDLER]![LOCATION_STREET_NO] & " " & [HHANDLER]![LOCATION_STREET1] "123" & "MAIN ST" results = "123 MAIN ST" " " & "STATE HWY 123" results = " STATE HWY 123"
LTrim()	(Trims blank spaces from the left or right)
RTrim()	LTrim([HHANDLER]![LOCATION_STREET_NO] & " " & [HHANDLER]![LOCATION_STREET1]) " " & "STATE HWY 123" results = "STATE HWY 123"

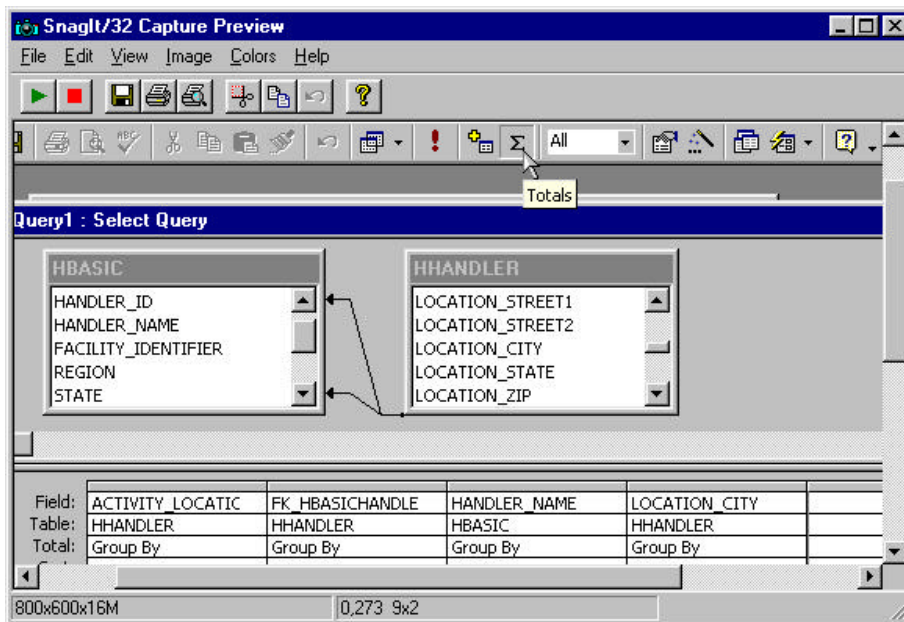
<u>FUNCTION</u>	<u>Example</u>
IIf()	<p>(Returns one value if the condition specified evaluates as TRUE and another value if it evaluates as FALSE)</p> <p>Format: IIf(logic test, then (True results), else (False results))</p> <p>IIf([HUNIVERSE]![FK_LU_UNIVERSEUNIVERSE_TYPE]="SUBJINSP", [LAND_DISPOSAL_UNIT] & [INCINERATOR_UNIT] & [BIF_UNIT] & [STORAGE_UNIT] & [TREATMENT_UNIT],Null))</p> <p>IIf([HHANDLER]![LOCATION_STATE] = "LA", "PARISH: " & [LU_COUNTY]![COUNTY_NAME], IIf([HHANDLER]![LOCATION_STATE] = "AR", "YOU LOST AGAIN, BUBBA", "COUNTY: " & [LU_COUNTY]![COUNTY_NAME]))</p>
Max()	<p>Returns Maximum or greatest value (Opposite = Min())</p> <p>Max([CEVALUATION]![EVALUATION_DATE])</p> <p>Similar in function to First() and Last()</p>
Is Null	<p>Used to search for Null values (Opposite = Is Not Null)</p> <p>(type Is Null or Is Not Null into the Criteria cell)</p>
""	<p>Used to search for zero-length (blank) strings</p> <p>(type two double quotation marks ("") into the Criteria cell to search for zero-length strings (don't type a space between the quotation marks).</p> <p>(Nulls are used when working with numeric or date values, or when there is NO value expected in the field. "" is used when working with alphanumeric or blank fields.)</p>

Building a Query

To select ALL fields in a table, double-click on the asterisk (*) at the top of the table's field list.



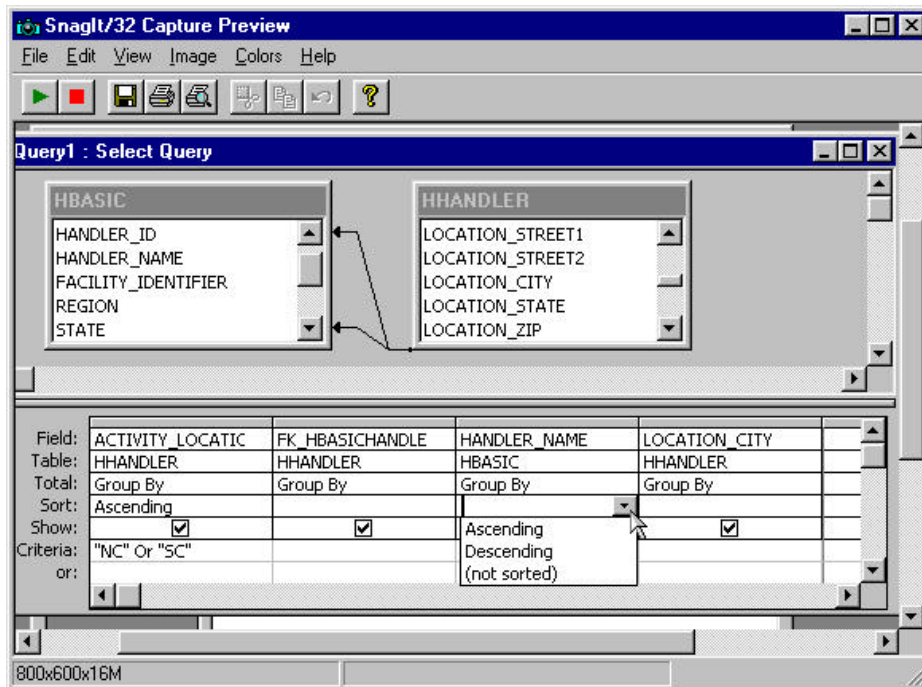
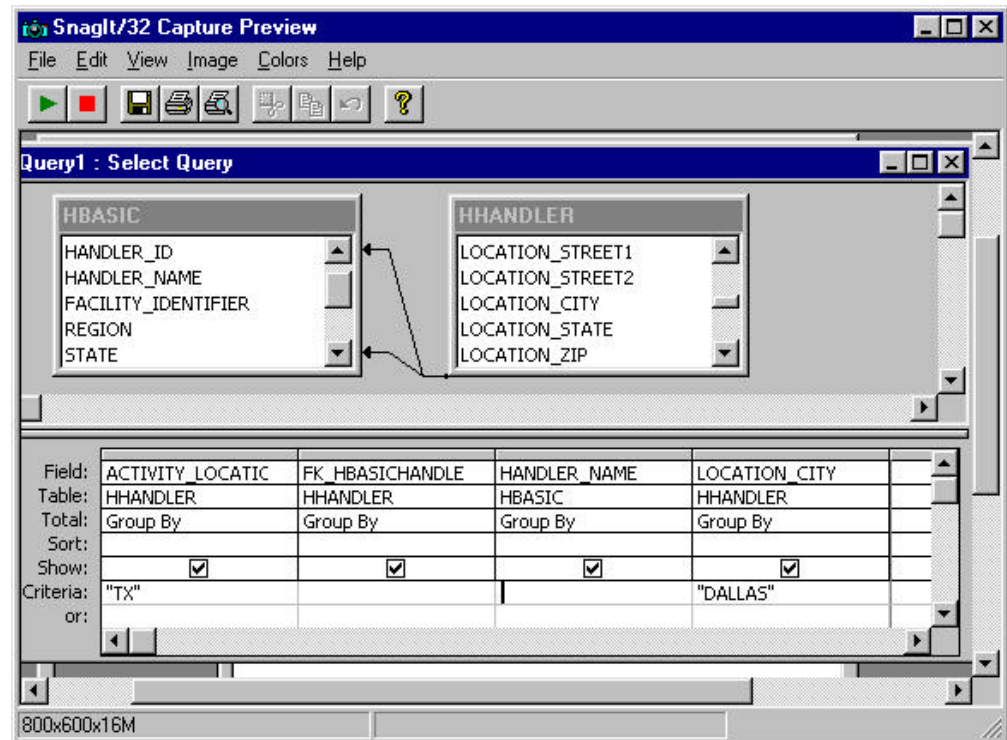
To select a specific field, double-click on the field's name in the table list.



To combine records with identical values in specified fields, and to reduce unnecessary resulting lines, it is recommended that, after you have selected the field(s) you want in the query, turn the "Totals" on the action bar at the top to turn on "Group By" in the "Total:" line in the field selection grid.

Once you have selected the fields, you're ready to begin refining your query.

Simply enter the specific search criteria you desire using the appropriate **Operator**. (If you choose "=", it is not necessary to type the equals sign.)



You can select any sorting you desire in the drop-down box on the **Sort:** line

Using the Expression Builder

If you are designing a simple query, use of the "Criteria" line in the Query By Example (QBE) grid will be sufficient to retrieve the data you are searching for. However, many searches will require a more complex statement, particularly when using If..then statements, when concatenating fields, when truncating a field, when trimming blank spaces - JUST TO MENTION A FEW!

In these cases, you should, and probably will have to, use the Expression Builder.

For example, let's use this scenario. I want to find out what Generator, SUBJINSP, and Transporter Universes a facility is in. So I run the following query:

Snagit/32 Capture Preview

File Edit View Image Colors Help

Query1 : Select Query

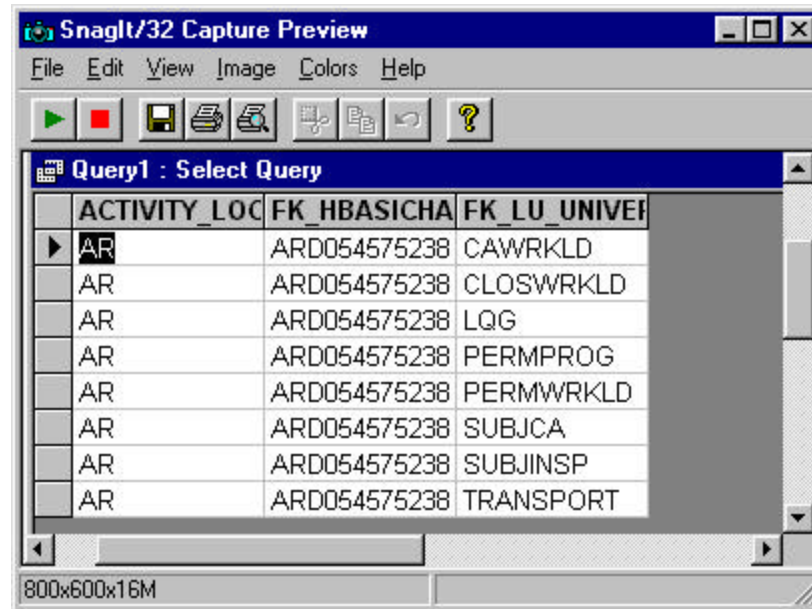
HUNIVERSE

- NOTES
- FK_LU_UNIVERSEOWNER
- FK_LU_UNIVERSEUNIVERSE_TYPE
- FK_HBASICHANDLER_ID
- ACTIVITY_LOCATION

Field:	ACTIVITY_LOCATION	FK_HBASICHANDLER_ID	FK_LU_UNIVERSEUNIVERSE_TYPE		
Table:	HUNIVERSE	HUNIVERSE	HUNIVERSE		
Total:	Group By	Group By	Group By		
Sort:					
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Criteria:		"ARD054575238"			
or:					

800x600x16M

And, I find that this facility is in a number of Universes:



Snagit/32 Capture Preview

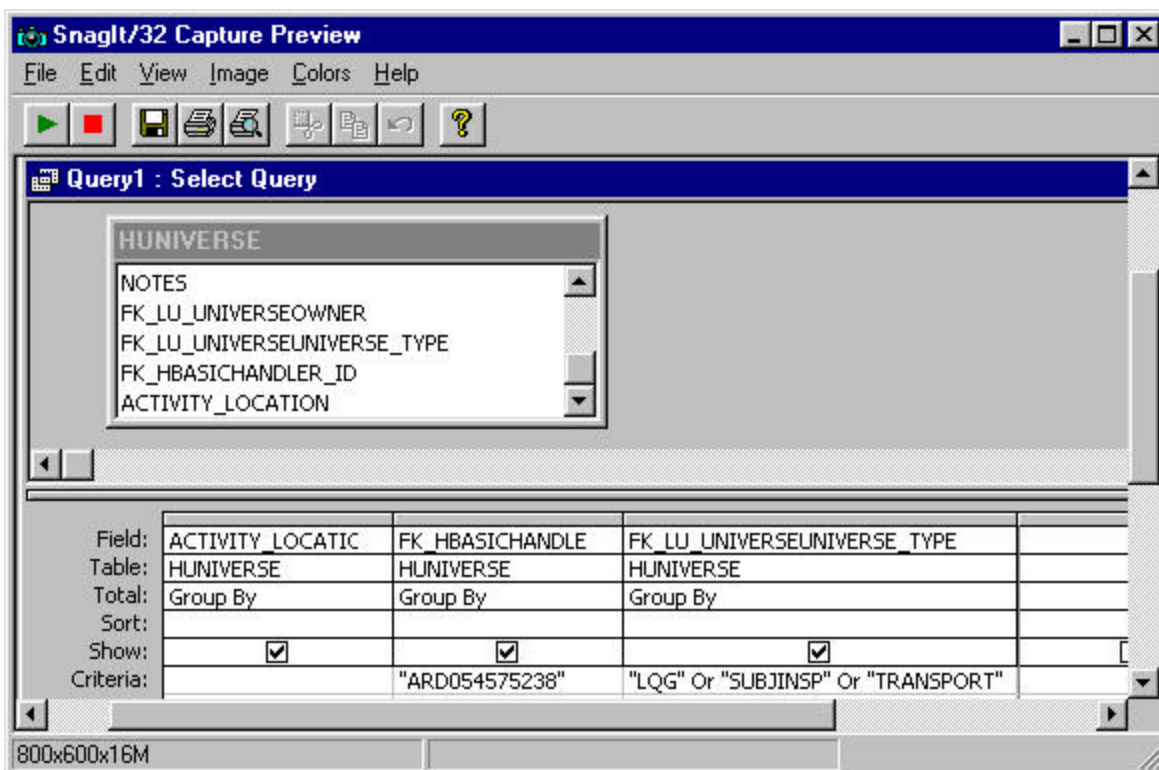
File Edit View Image Colors Help

Query1 : Select Query

	ACTIVITY_LOC	FK_HBASICHA	FK_LU_UNIVER
▶	AR	ARD054575238	CAWRKLD
	AR	ARD054575238	CLOSWRKLD
	AR	ARD054575238	LQG
	AR	ARD054575238	PERMPROG
	AR	ARD054575238	PERMWRKLD
	AR	ARD054575238	SUBJCA
	AR	ARD054575238	SUBJINSP
	AR	ARD054575238	TRANSPORT

800x600x16M

I'm only looking for Generator (in this case LQG), SUBJINSP and TRANSPORT, so I try:



Snagit/32 Capture Preview

File Edit View Image Colors Help

Query1 : Select Query

HUNIVERSE

NOTES

FK_LU_UNIVERSEOWNER

FK_LU_UNIVERSEUNIVERSE_TYPE

FK_HBASICHANDLER_ID

ACTIVITY_LOCATION

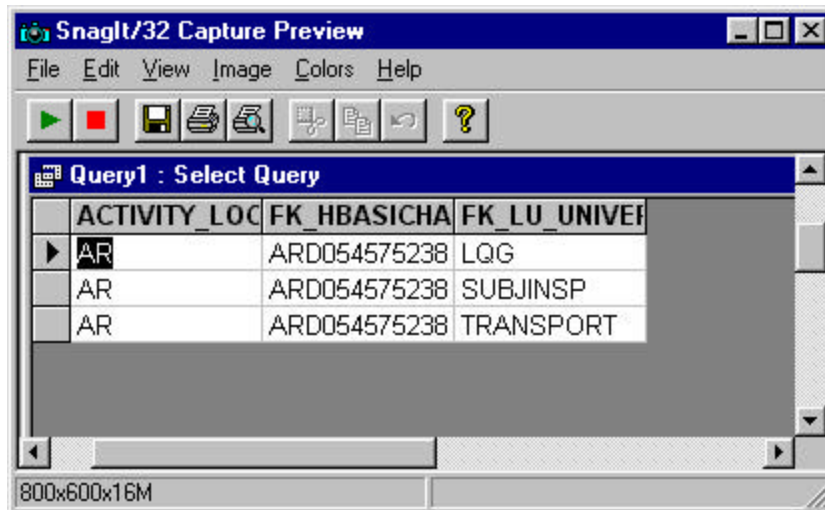
Field:	ACTIVITY_LOCATIC	FK_HBASICHANDLE	FK_LU_UNIVERSEUNIVERSE_TYPE
Table:	HUNIVERSE	HUNIVERSE	HUNIVERSE
Total:	Group By	Group By	Group By
Sort:			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		"ARD054575238"	"LQG" Or "SUBJINSP" Or "TRANSPORT"

800x600x16M

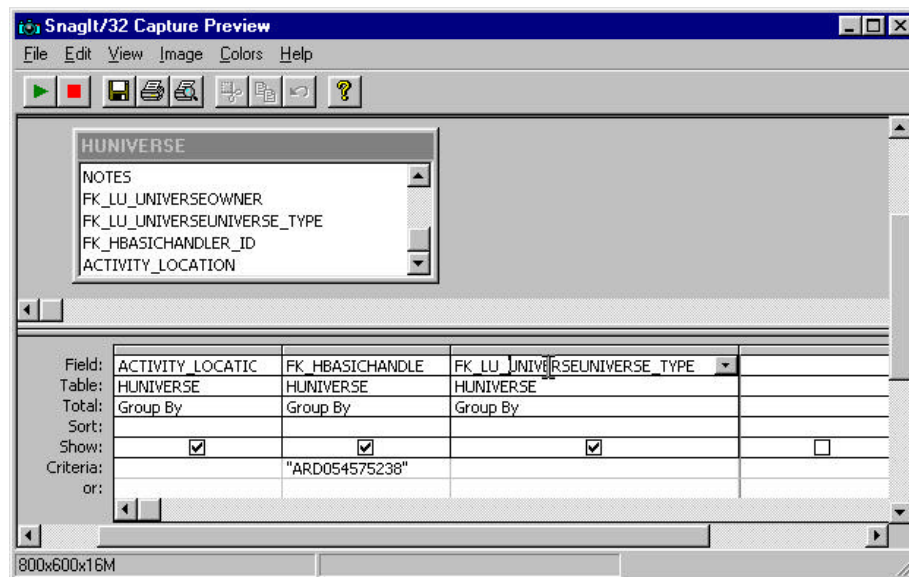
And...

I get:

We're is getting closer, but I want it all on one line.

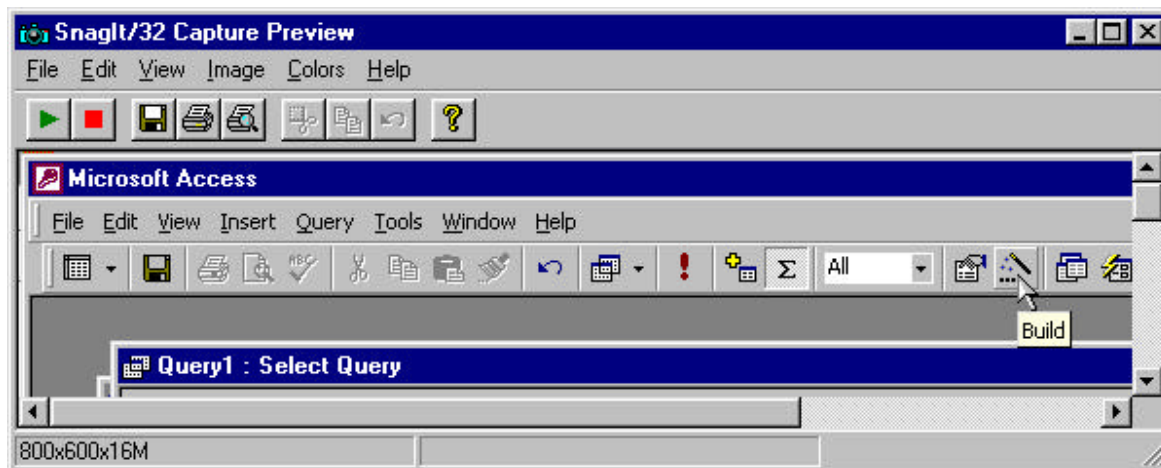


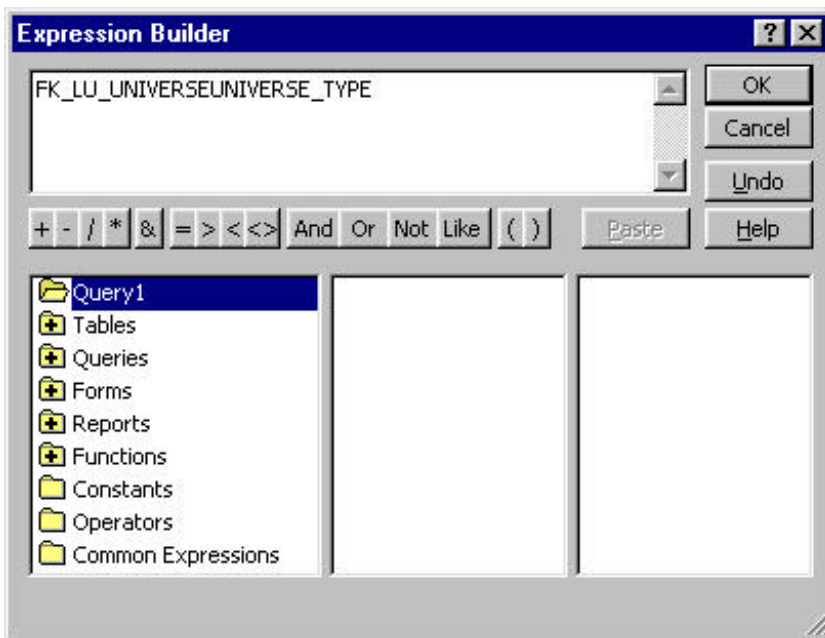
We can fix this with the Expression Builder!



Click on the field's name in the Field line of the QBE.

Click the "Build" icon (a Magic Wand) at the top:





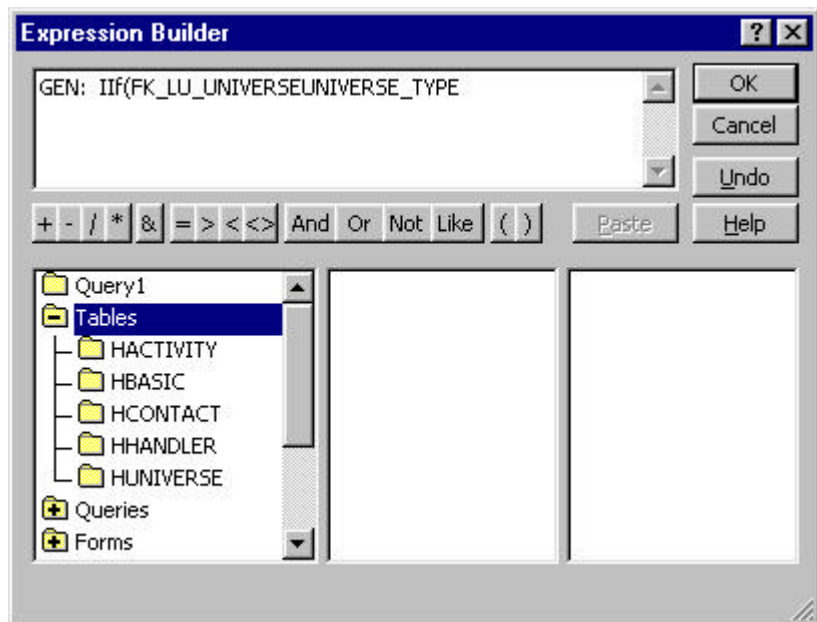
The Expression Builder box will appear.

For this field, I'm looking for Generator Status - LQG, SQG, or CEG.

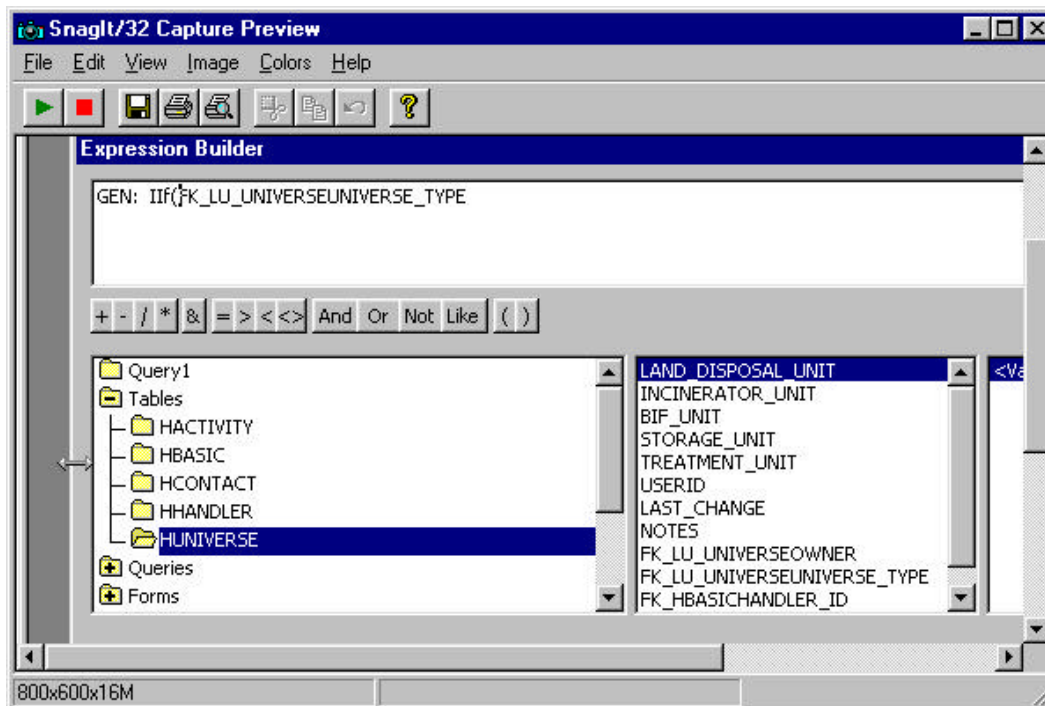
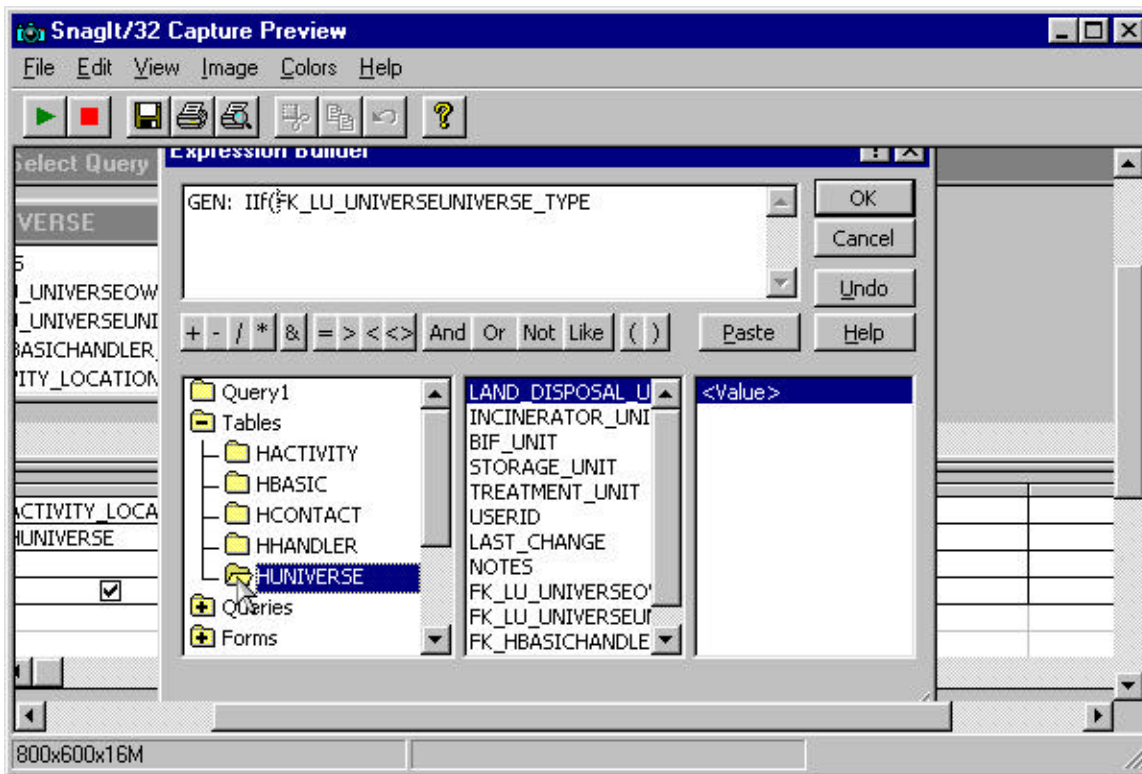
I entered a new name for the field (GEN") (If you don't rename the field, Expression Builder will name it "Expr1", "Expr2", etc.

Then type the Function you want to use - IIf().

Expand the "Tables" by clicking the Folder beside it:

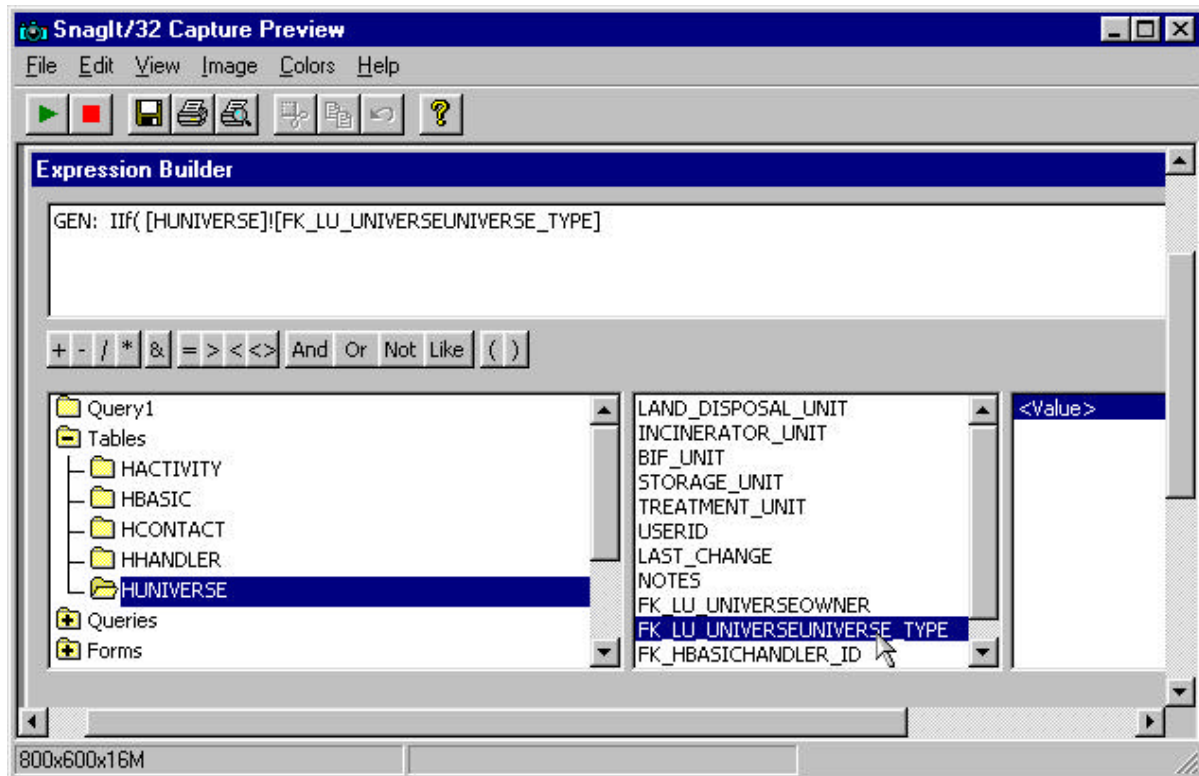


Scroll down to the Table you want to work with, in the case HUNIVERSE, and click on it's Folder. The Tables field names will appear in the center box.

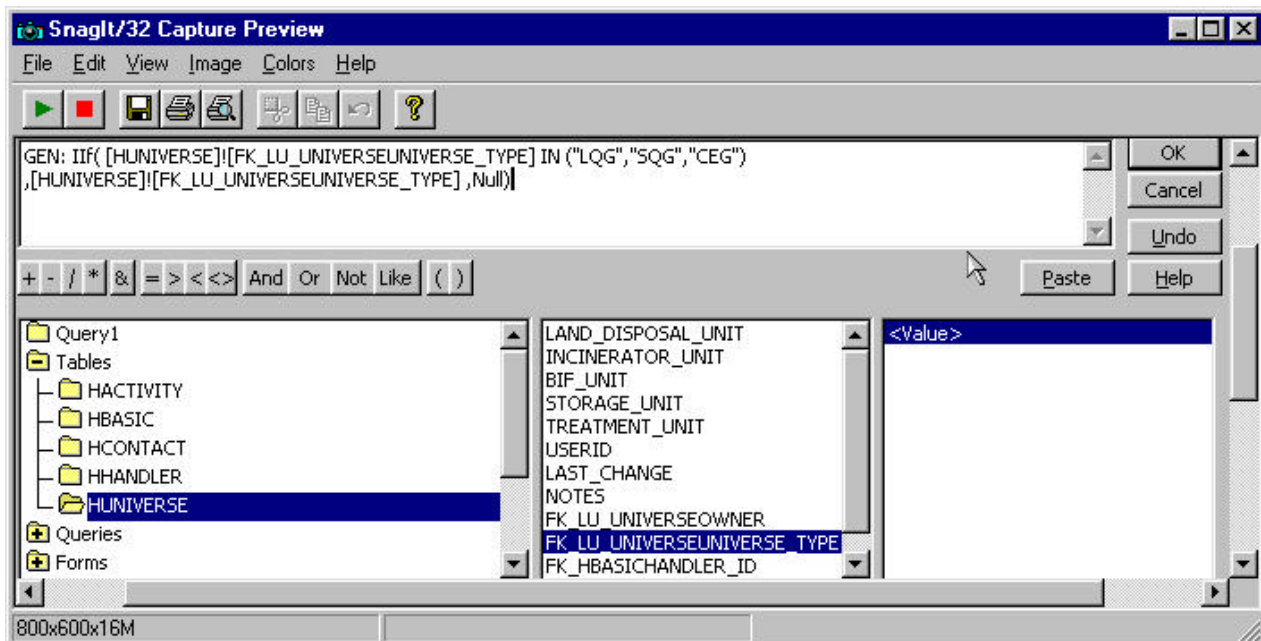


You can expand the Expression Builder box, to make it easier to read, by dragging the left or right sides.

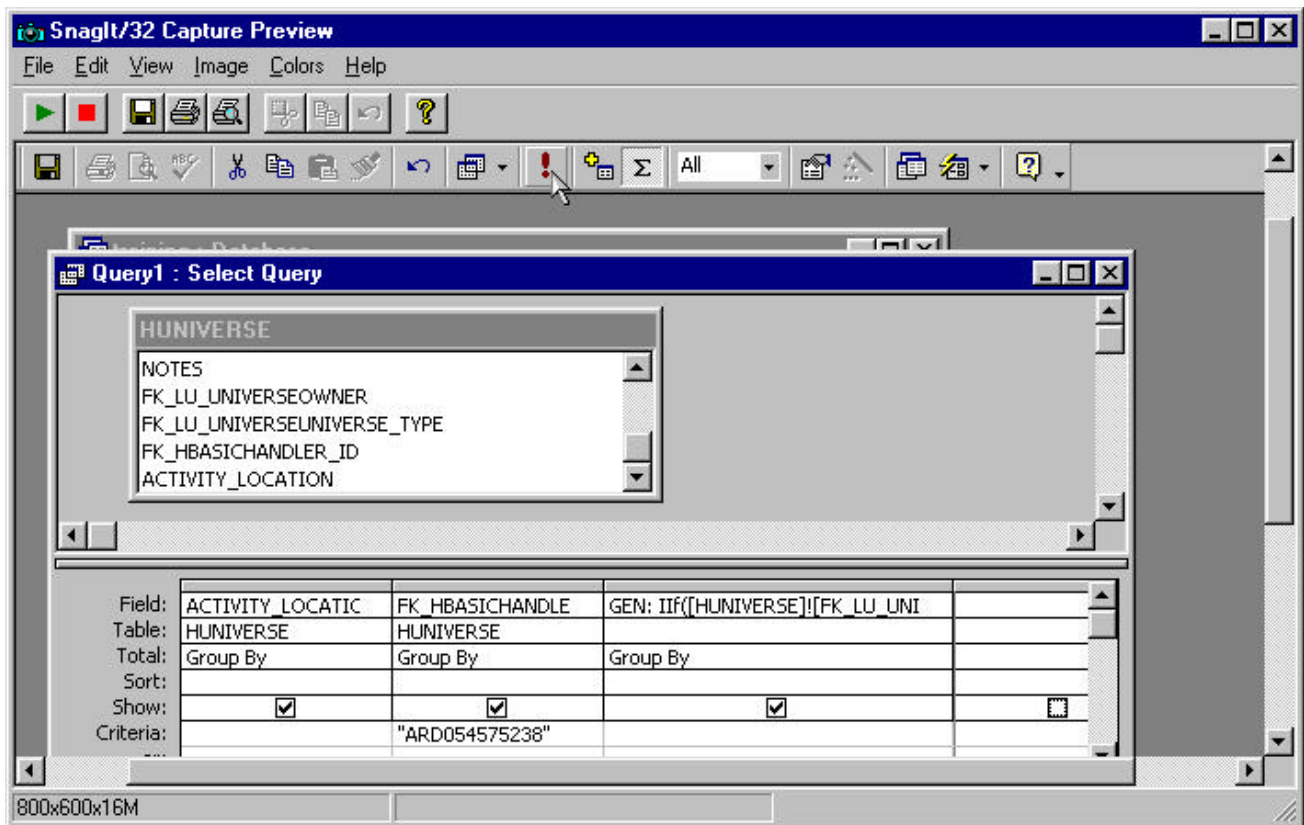
Double-click on the field name you desire, and it will pop up into the expression.



Now, we can complete the expression. Afterwards, click **OK**.

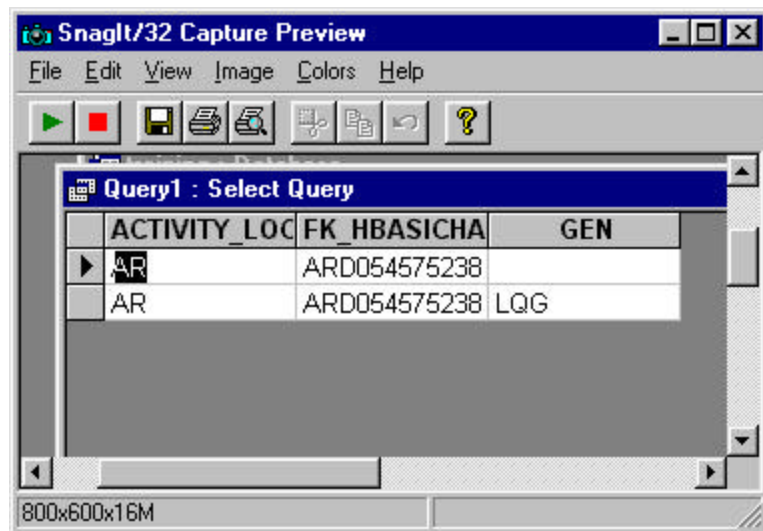


Now, RUN the query by clicking the Exclamation Point.

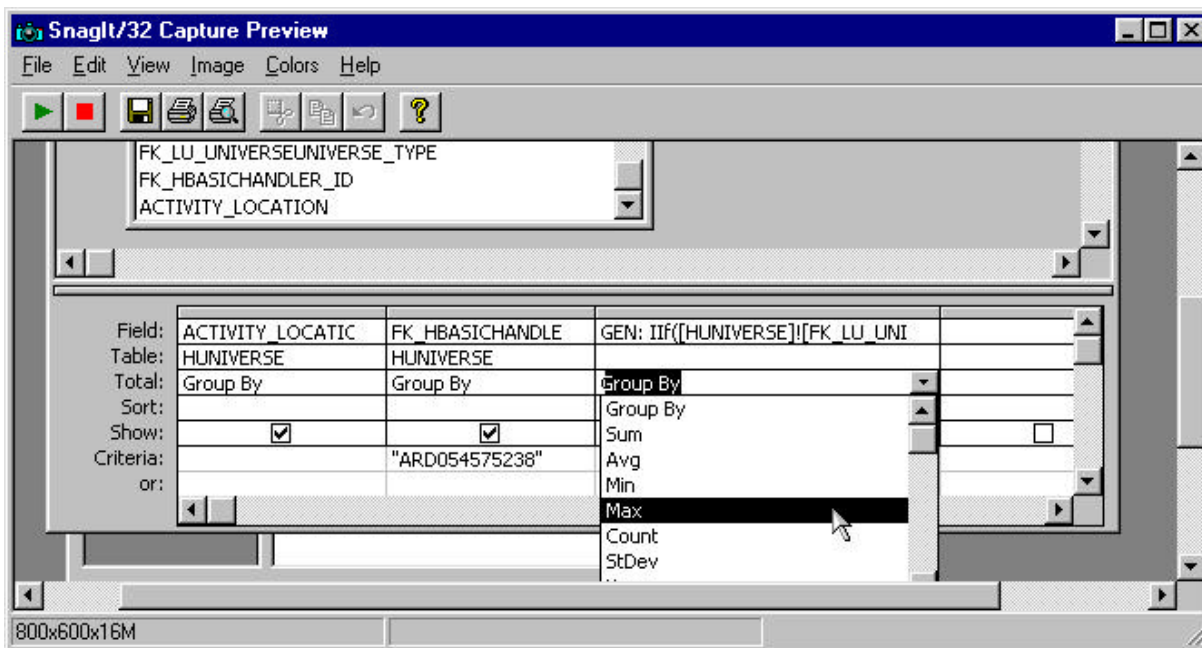


And your query runs!

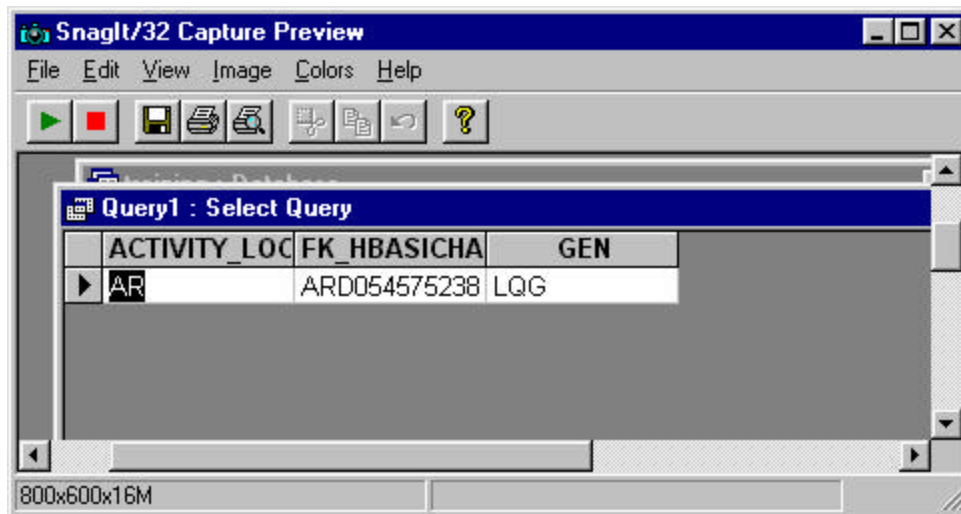
Wait a minute! I'm still getting "multiple" lines.



Go back to your query design, click to the right of the **Group By** on the **Total:** line to get the drop-down box, and select **Max**.

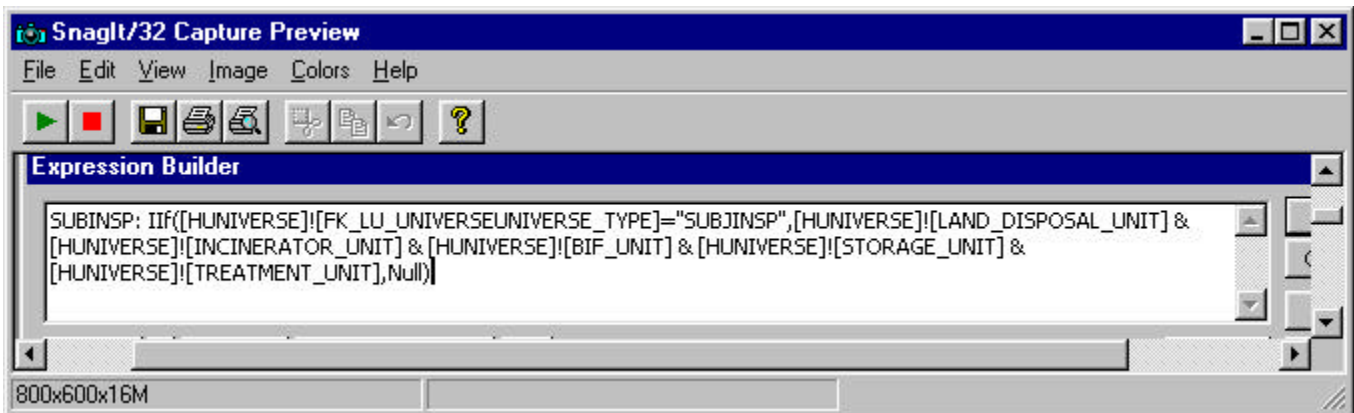


Then re-run the query.

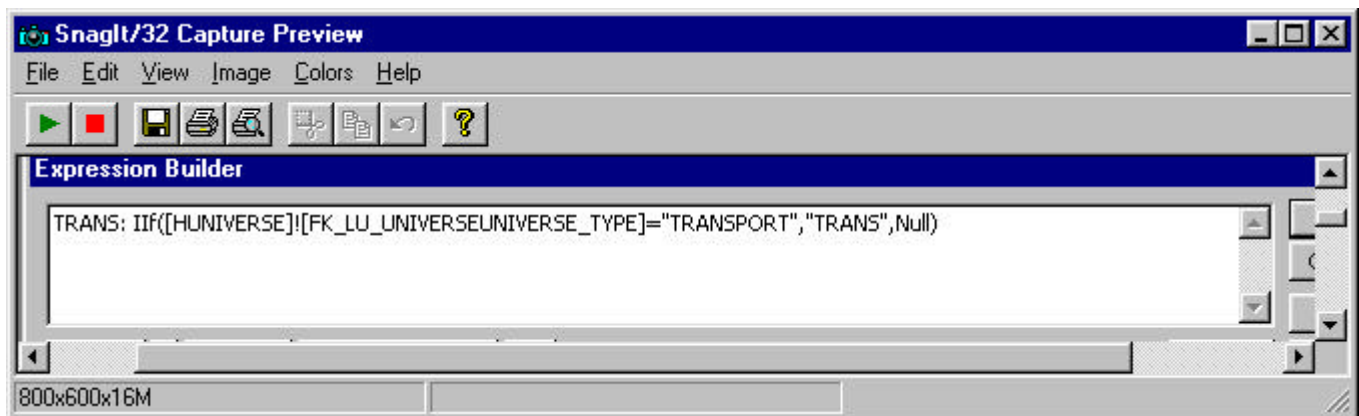


Now we have it!

Next, go back and build new expressions for SUBJINSP and TRANSPORT.

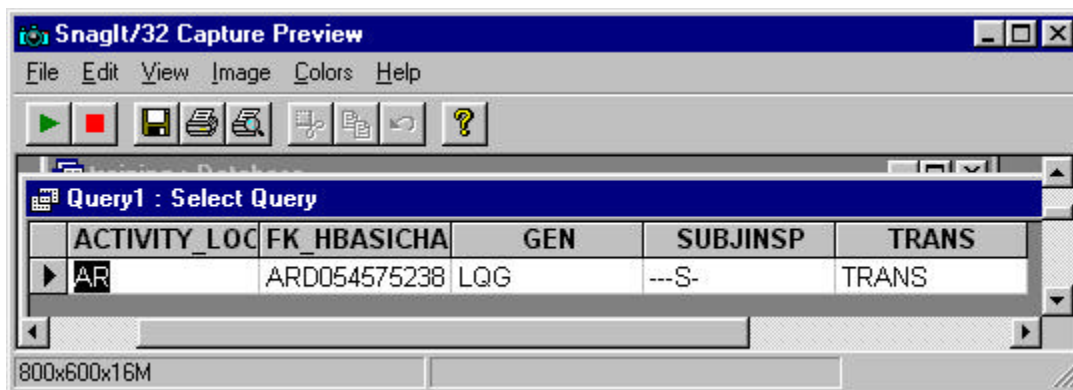


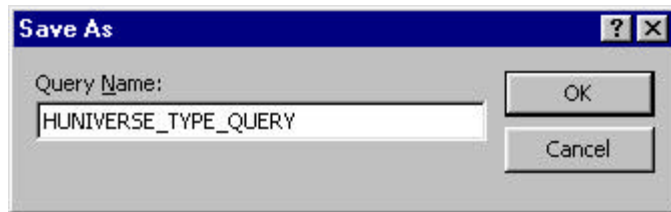
For SUBJINSP, IF the Universe Type equals "SUBJINSP", concatenate the fields LAND DISPOSAL_UNIT and INCINERATOR_UNIT and BIF_UNIT and STORAGE_UNIT and TREATMENT_UNIT, else Null (blank).



For TRANS, IF the Universe Type equals "TRANSPORT", then return the word "TRANS", else Null (blank).

Set **Max** on for both of the new fields. Then re-run the query. You can continue on for all Universe Types as desired.



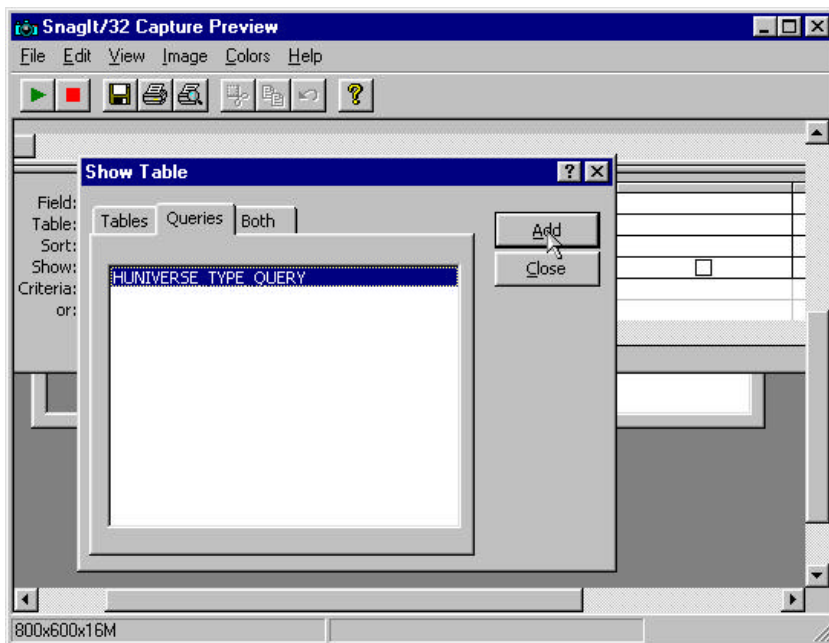
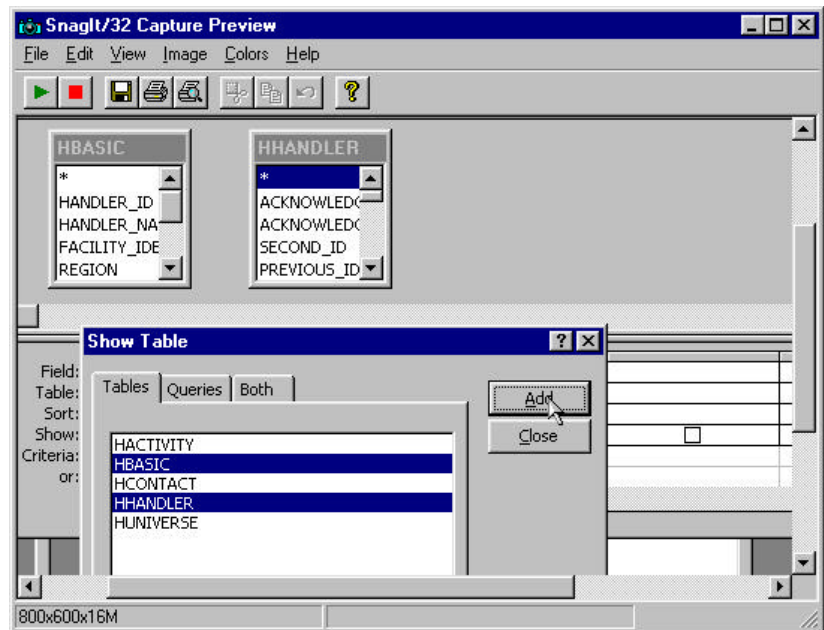


After removing the "test" ID from the QBE, save the query, giving it a name.

This query can be used just like any table to build a variety of reports

Go back and, as before, select **New** for a new query.

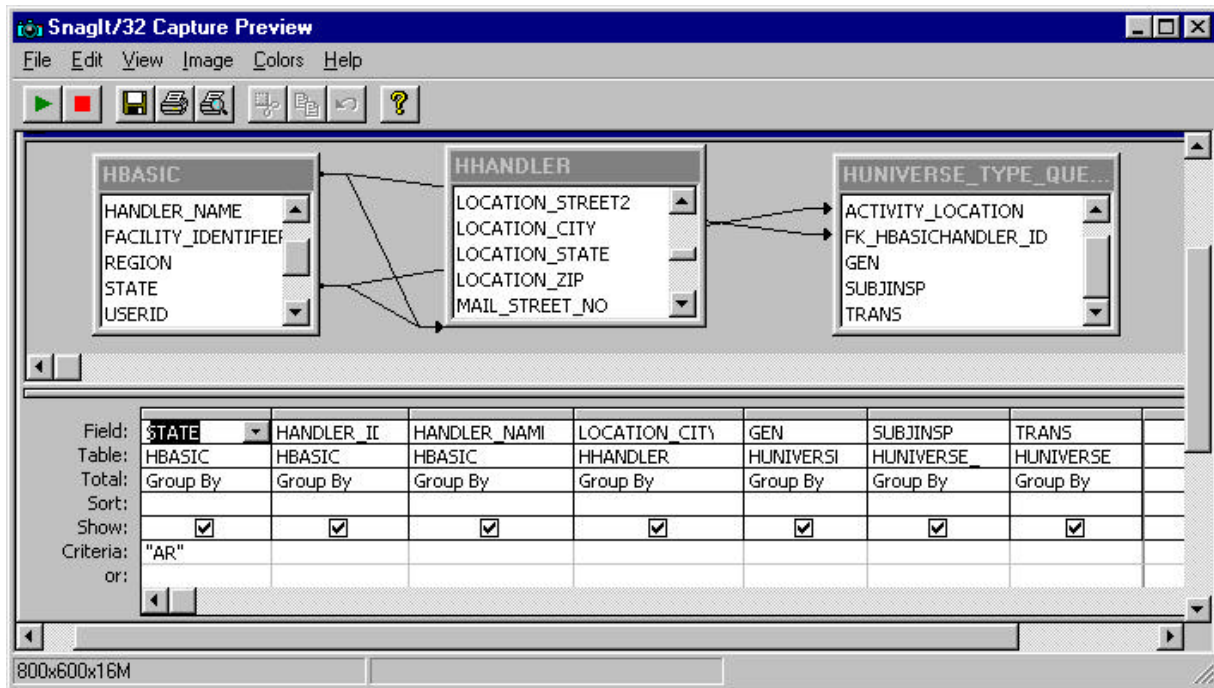
After selecting desired tables from the Table list in the Show Table box...



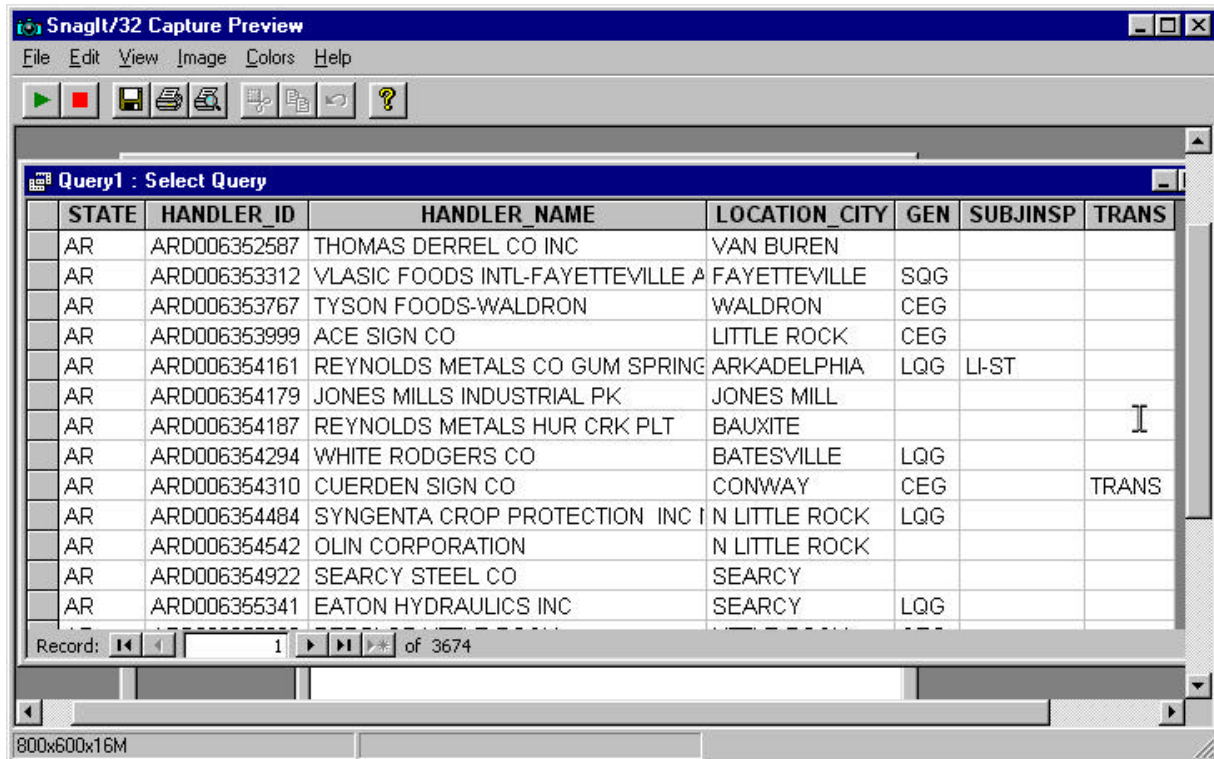
And..

Click the **Queries** tab and select desired queries.

Make appropriate links and select desired fields. Then run your query!



This query returns:



Queries can be designed for a number of purposes. Generally one query will serve the purpose. But sometimes, as above, you will have to build "subqueries" to run within another query. The power here is almost unlimited.

There are, of course, numerous other Functions that can be used as either **Criteria** or in the **Expression Builder**. In the limited time provided for this presentation, we can only provide an example. You may, and should, venture further as you develop queries for whatever purpose desired.

Many good publications are available that will greatly enhance your knowledge. Additionally, you can find a lot of help on the Internet. In any good Search Engine, search for "MICROSOFT ACCESS TUTORIAL" and a number of sites should come up.

Building a report with Report Wizard

Next, let's move into Reports and use the second query we just built to generate a simple report.

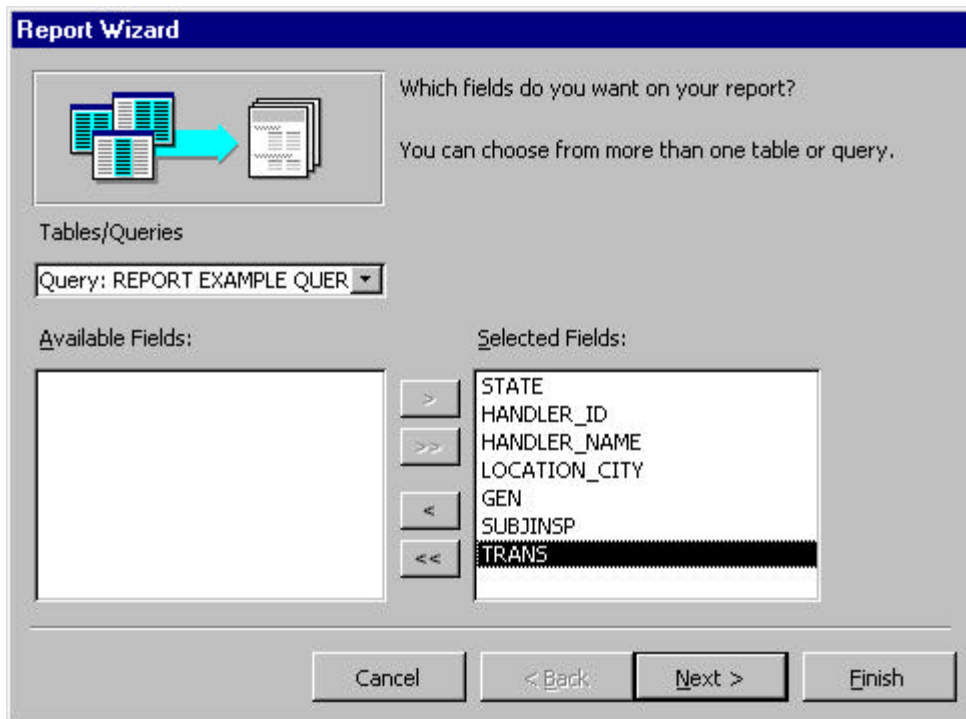
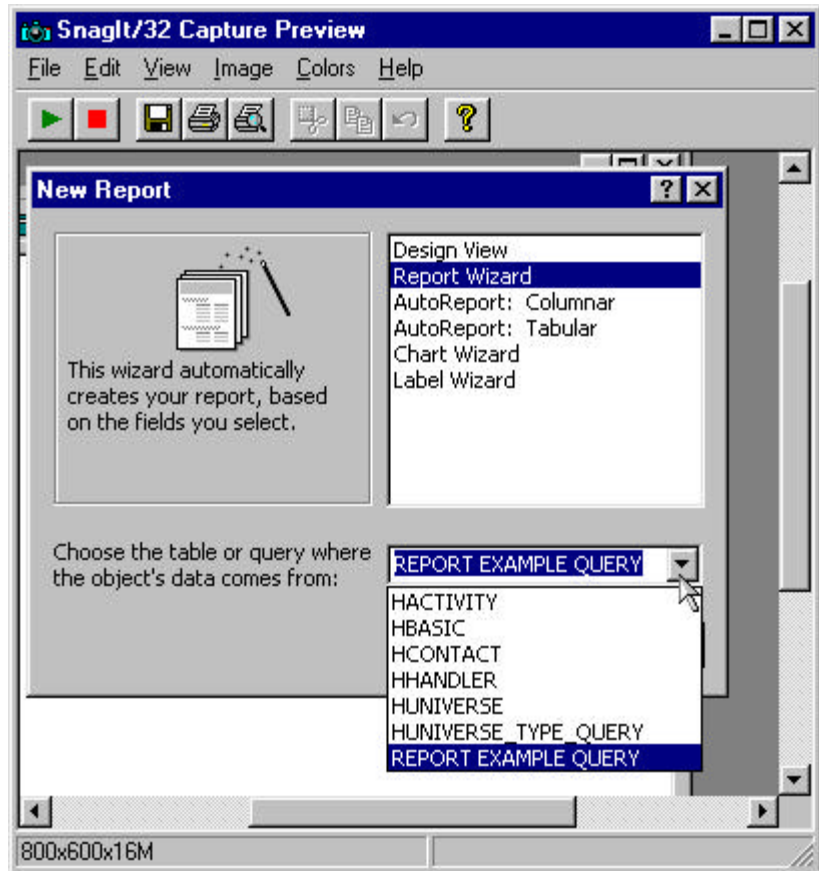
I have named the second query "REPORT EXAMPLE QUERY" for this purpose.

Click on **Reports** in the Objects column and select **New**.



In the **New Report** box, select **Report Wizard** and select **REPORT EXAMPLE QUERY** from the drop-down list of tables and queries.

Then, click **OK**.



Select the field(s) you want by clicking ">" an individual field or ">>" for all fields.

Then click **Next>**.

When finished,
click **Next>**.

Report Wizard

Do you want to add any grouping levels?

HANDLER_ID
 HANDLER_NAME
 LOCATION_CITY
 GEN
 SUBJINSP
 TRANS

>
 <
 ↑
 ↓
 Priority

STATE

HANDLER_ID, HANDLER_NAME,
 LOCATION_CITY, GEN, SUBJINSP,
 TRANS

Grouping Options ... Cancel < Back Next > Finish

Report Wizard

What sort order do you want for detail records?

XXXXXXXXXX

XXXXXXXXXX

XXXXXXXXXX

	1	2	3	4	
A	000000	000000	000000	000000	000000
1	000000	000000	000000	000000	000000
2	000000	000000	000000	000000	000000
3	000000	000000	000000	000000	000000
4	000000	000000	000000	000000	000000
5	000000	000000	000000	000000	000000
6	000000	000000	000000	000000	000000
7	000000	000000	000000	000000	000000
8	000000	000000	000000	000000	000000
9	000000	000000	000000	000000	000000
0	000000	000000	000000	000000	000000

XXXXXXXXXX

A

1

2

3

4

5

6

7

8

9

0

You can sort records by up to four fields, in either ascending or descending order.

1 HANDLER_NAME [A-Z]

2 [] [A-Z]

3 [] [A-Z]

4 [] [A-Z]

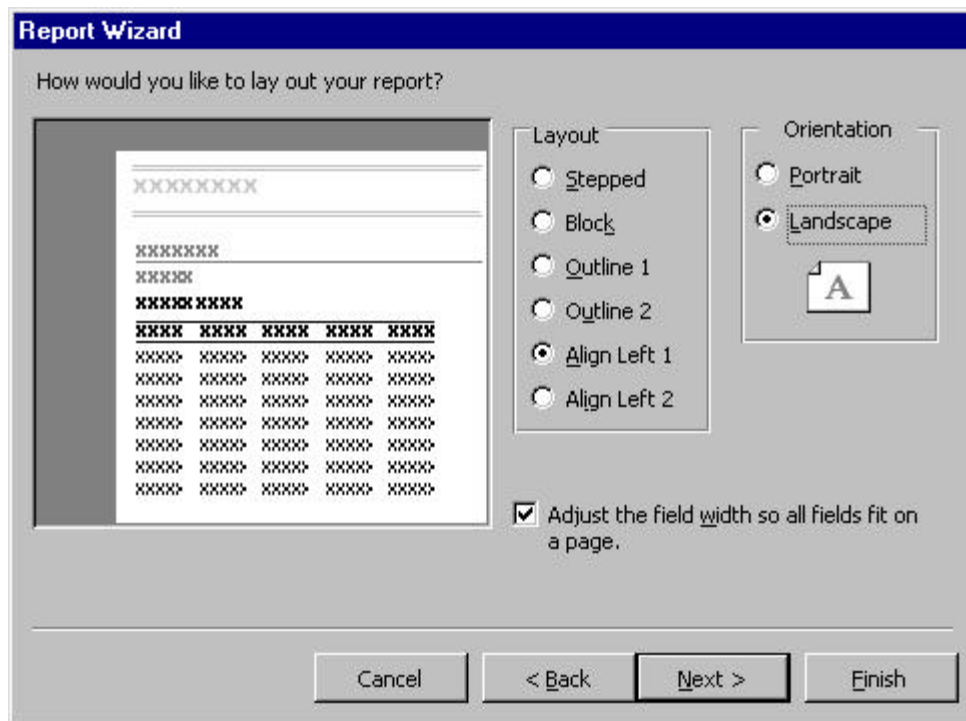
Cancel

< Back

Next >

Finish

Then click on **Next>**.



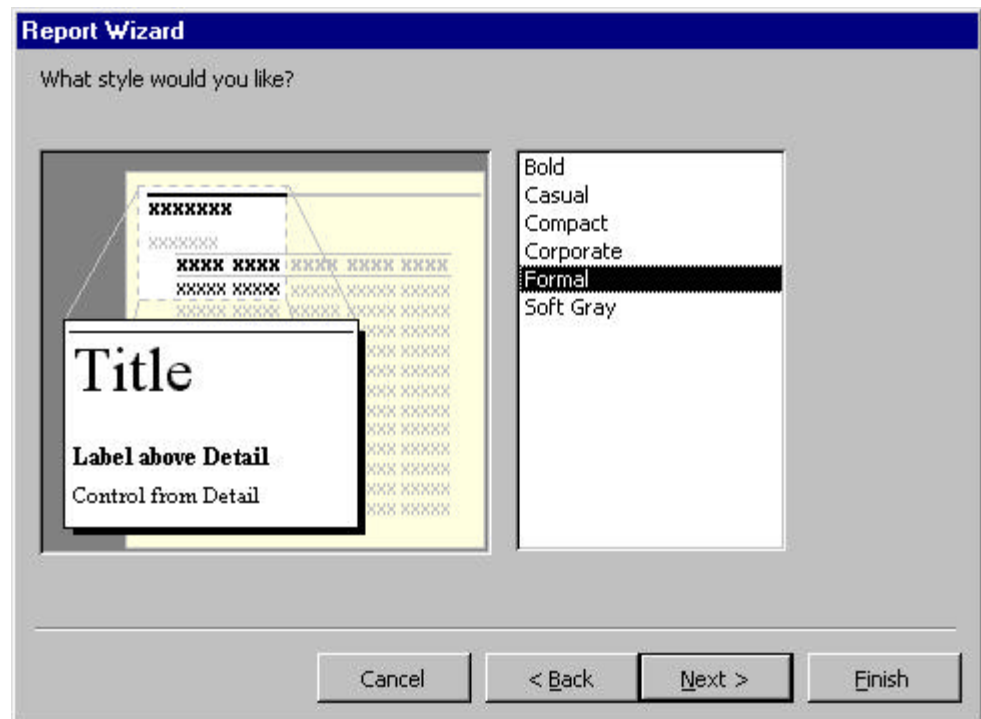
ACCESS offers six different basic layouts that you can select.

Also, you can now select whether you want your report set up in Portrait or Landscape orientation.

Then click on **Next>**.

Next, Report Wizard offers you a selection in styles.

After selecting one, click on **Next>**.




Next, you can enter a title for your report.

Then you can opt to Preview the report or Modify the report's design.

When ready, click **Finish**. The report will run or the design view will display.

Report Wizard



What title do you want for your report?

SAMPLE REPORT

That's all the information the wizard needs to create your report.

Do you want to preview the report or modify the report's design?

☒ Preview the report.

☐ Modify the report's design.

☐ Display Help on working with the report?

Cancel < Back Next > Finish

Snagit/32 Capture Preview

File Edit View Image Colors Help

SAMPLE REPORT

SAMPLE REPORT

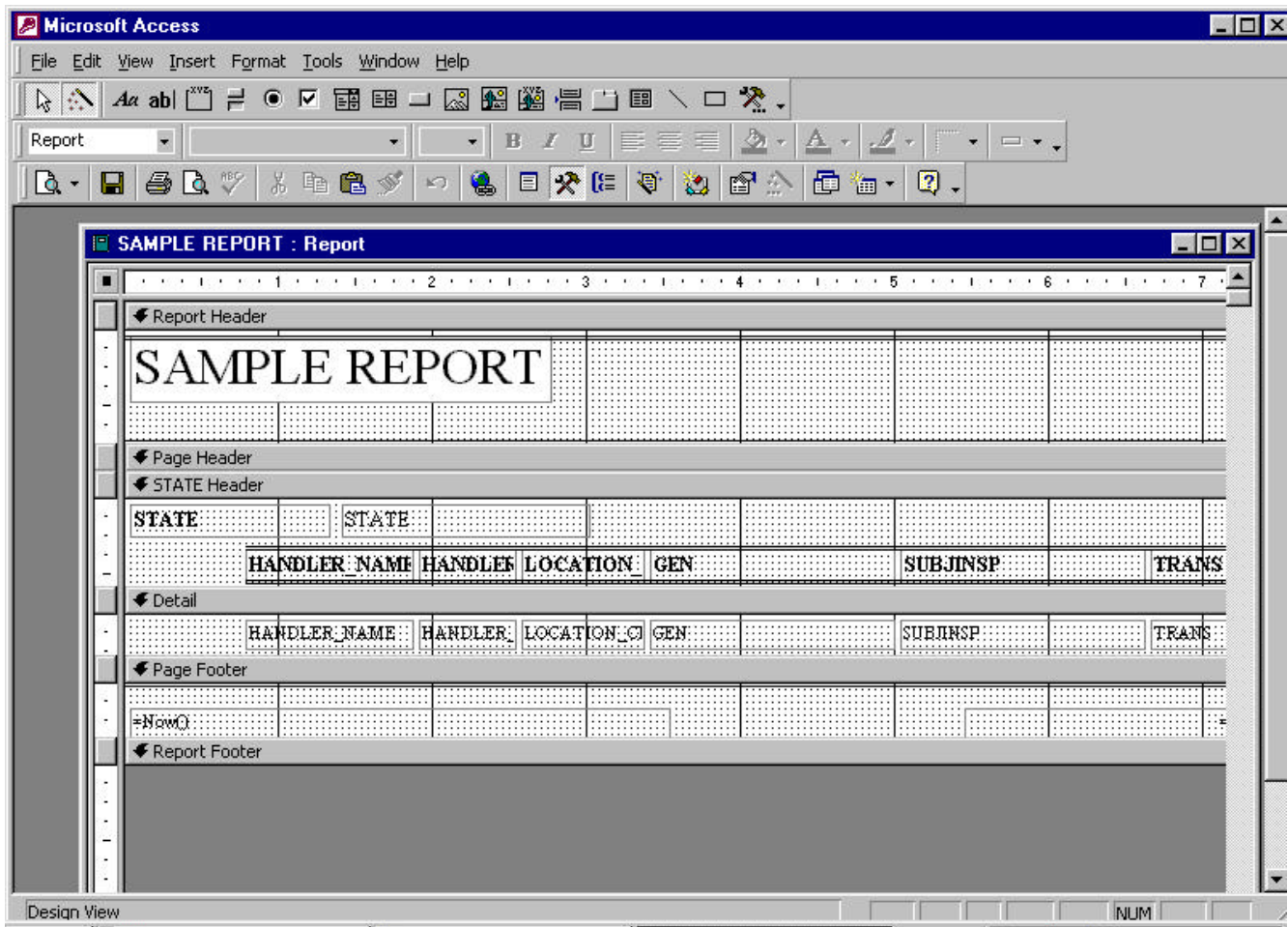
STATE	AR				
HANDLER_NA	HANDLE	LOCATION	GEN	SUBJINSP	TRAN
1 2 3 CLEANERS	ARR000001	LITTLE ROCK	CEG		
19TH JUDICIAL TAS	ARR000007	DECATUR	SQG		
3M LITTLE ROCK A	ARD000804	LITTLE ROCK	CEG		
3M LITTLE ROCK C	ARD006356	LITTLE ROCK	CEG		
A & G AUTO PARTS	AR0000563	JONESBORO	CEG		

800x600x16M

To go to the reports Design View, click on the **View** icon in the upper left corner on the tool bar.



In the Design View, the report's layout can be redesigned as desired.



The report will save automatically, or you will be prompted to save it, each time you exit.



END OF PRESENTATION

**RCRAInfo National Users
Conference**

September 18 - 21, 2001